Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

2005 Alaska Division of Geological & Geophysical Surveys Lidar: Unalakleet, Alaska

1.2. Summary description of the data:

This report is a summary of a LiDAR data collection over the community of Unalakleet, in the Norton Sound region of Alaska. The original data were collected on October 27, 2005 by AeroMetric, Inc., under contract by Rodney P. Kinney and Associates, Inc. The complete, classified LiDAR dataset was purchased by the State of Alaska Division of Geological & Geophysical Surveys in 2013 in support of coastal vulnerability mapping efforts. For the purposes of open access to LiDAR datasets in coastal regions of Alaska, this collection is being released as a Raw Data File with an open end-user license. A copy of this data was supplied to the NOAA Office for Coastal Management for incorporation into the NOAA Digital Coast. The classifications of data available from the NOAA Digital Coast are: 1 (Unclassified), 2 (Ground), 3 (Low Vegetation), 4 (Medium Vegetation), 5 (High Vegetation), 6 (Buildings), 9 (Water), 10 (Ignored Ground, breakline proximity).

Original contact information:

Contact Org: Alaska Division of Geological & Geophysical Surveys

Title: GIS Manager

Phone: (907)451-5020

Email: dggsgis@alaska.gov

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2005-10-27

1.5. Actual or planned geographic coverage of the data:

W: -160.83475, E: -160.748784, N: 63.917474, S: 63.844708

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Classified LAS points

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2005-01-01 00:00:00 - Collection - The raw LiDAR data points were captured using AeroMetric's twin-engine Cessna equipped with a OPTECH 30/70 ALTM 70 kHz LiDAR acquisition system. The system includes differential GPS (DGPS) and inertial navigation systems (INS) to provide the necessary trajectory accuracy.
- 2006-01-01 00:00:00 - Processing - The airborne trajectory solution was processed in Applanix's POSPac v. 4.4, which first computes a 2 Hz Post Processed Kinematic (PPK) DGPS trajectory, then integrates the 200 Hz inertial measurement unit data for a final smoothed best estimate of trajectory (SBET). This SBET is then integrated with the LiDAR pulse data, utilizing Optech's REALM software, for a final x,y,z 'point cloud' dataset in industry standard LAS (LiDAR Accuracy Standard) format in the NAD83, Universal Transverse Mercator (UTM), Zone 4 Meters coordinate system with ellipsoidal heights.
- 2013-01-01 00:00:00 - Migration and calibration - For this delivery, AeroMetric gathered the necessary data from the Unalakleet archive drive. Using GeoCue (V2012.1.27.5), AeroMetric converted the LAS swath data to NAVD88 GEOID09, NAD83 UTM Zone 4. The archived LAS swath data lacked return and scan angle information. Individual points were classified based on return number. Using proprietary in-house software, AeroMetric was able to use these classifications and timestamps to calculate the point return fields. Polygons were digitized along flight line edges to re-class the geometrically unreliable points near the extreme edge of the swath to help with calibration. An in-situ calibration was performed using the data collect for this project. The dataset was classified in each line separately for ground and other common features between lines, such as building roofs. This dataset was processed in TerraSolid's TerraMatch (Version 11.001) to compute corrections for roll, pitch, heading, and mirror scale. These corrections are applied in order to minimize discrepancies between flight lines.
- 2013-01-01 00:00:00 - Classification - AeroMetric preformed automated classification of the bare-earth data from the LiDAR point cloud using a series of algorithms customized for the types of terrain encountered in the project. This step was followed by manual classification of any data which appeared to be poorly classified using the automated methods. Breaklines were digitized along coast and water bodies that met project standards listed above.
- 2013-01-01 00:00:00 - Verification - Rodney P. Kinney (RPK) and Associates provided AeroMetric with Post Processed Kinematic (PPK) Quality Assurance and Quality Control (QAQC) data, to check the vertical accuracy of these LiDAR data. The

2006 control file had to be translated by AeroMetric from GEOID99 to GEOID09. A comparison between the QAQC and the LiDAR point data were made using TerraScan, to determine any vertical bias in the data. An adjustment of 0.21 meters was applied to the LiDAR data in order to match the provided QAQC data.
- 2013-01-01 00:00:00 - Classified LAS 1.1 files - AeroMetric created classified LAS 1.1 files using the client provided tiling scheme. The points within each tile are sorted sequentially in order of acquisition, and have adjusted GPS timestamps. Note: that the Acquisition and Processing Report provided by AeroMetric incorrectly cites the deliverable format as LAS 1.3.
- 2014-01-01 00:00:00 - File compression - LAS files were compressed to LAZ format to facilitate online distribution
- 2014-05-13 00:00:00 - The lidar files were received by the NOAA Office for Coastal Management for incorporation into the NOAA Digital Coast. The data consisted of 19 lidar files. The data were in LAS format 1.1 and were in UTM, Zone 4, NAD83, meters coordinates. The data were in NAVD88 (Geoid09), meters vertical units. The classifications of the data are: 1 (Unclassified), 2 (Ground), 3 (Low Vegetation), 4 (Medium Vegetation), 5 (High Vegetation), 6 (Buildings), 9 (Water), 10 (Ignored Ground, breakline proximity). For Digital Coast data storage and provisioning, the NOAA OCM performed the following processing: 1. The data were reviewed for any elevation outliers. 2. The data were converted from UTM, Zone 4 coordinates to geographic coordinates. 3. The data were converted from NAVD88 elevations to ellipsoid elevations using Geoid09. 4. The data were zipped to laz format.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management

- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

https://www.fisheries.noaa.gov/inport/item/49618

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=3648
https://coast.noaa.gov/htdata/lidar1_z/geoid12b/data/3648

7.3. Data access methods or services offered:
This data can be obtained on-line at the following URL:

https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=3648

This data set is dynamically generated based on user-specified parameters.;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.